



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/594,029	06/15/2000	Koji Tsukamoto	826.1610/JDH	9256
21171	7590	08/07/2006	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			NGUYEN BA, PAUL H	
			ART UNIT	PAPER NUMBER
			2176	

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/594,029	TSUKAMOTO, KOJI	
	Examiner	Art Unit	
	Paul Nguyen-Ba	2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/15/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Notice to Applicant

1. This action is responsive to Applicant's Amendments and Remarks (5/22/2006).
2. Claims 1-19 are currently pending. Claims 1, 4, 5, 10, 12, 13, 14, 15, 16, 17, 18, and 19 are independent claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egger et al. ("Egger"), U.S. Patent No. 6,233,571, in view of Lawrence et al. ("Lawrence"), U.S. Patent No. 6,289,342.**

Regarding independent claim 1, Egger discloses a reference reason identifying apparatus, comprising:

➤ *a reference feature/reference reasons correspondence table indicating correspondence between reference features and reference reasons (see col. 12*

lines 40-45 and col. 14 lines 2-27 → Egger teaches that a table is used to correlate or map a node (i.e. section of a document) with reasons for citation (i.e. source links, influence links, overruled, followed, etc.));

➤ *a referred document extracting device extracting document information about a referred document from given document data* (see Figure 3B - 96; column 4, lines 3-5; column 16, lines 37-39, 55+ → The Initial Extractor Subroutine extracts and initializes data information);

➤ *an identification device identifying a reason indicating why the referred document is cited by retrieving the reason from the reference feature/reference reason correspondence table (...), the reason including at least one of answer, application, basic, contraposition, human, related work, review, software, technique, weak correlation and similar* (see col. 12 lines 40-45 and col. 14 lines 2-27 → Egger teaches that a table is used to correlate or map a node (i.e. section of a document) with reasons for citation (i.e. source links, influence links, overruled, followed, etc.)); *and*

➤ *an output device outputting output information including the information extracted by the referred document extracting device and the reason why the referred document is cited* (see Figure 5A-5H; column 5, lines 56-57; column 28, lines 24-25; column 29, lines 32-38 → Egger displays key precedent and guidance as to possible gradations in between extensive or merely citing).

Egger does not explicitly disclose extracting information about a *position* where the referred document is cited in the document data, and a feature in the neighborhood of the position.

However, Lawrence discloses a citation indexing system that autonomously extracts citations and identifies the context of citations in the body of articles (see col. 1 lines 10-17; col. 5 lines 50-56). Citation identifiers are used to find the locations and *positions* in the document body where the citations are actually made. This allows extraction of the *features* (i.e. context) of the citations (see col. 9 lines 31-39). Furthermore, the context may contain *reasons for citation* by a referring document such as a brief summary of the paper, another author's response to the paper, or a subsequent work that builds upon the original article (see col. 6 lines 34-37).

Since Egger and Lawrence are both from the same field of endeavor, the purposes disclosed by Lawrence would have been recognized in the pertinent art of Egger. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teaching of Egger with the teachings of Lawrence to include extracting information about a *position* where the referred document is cited in the document data, and a feature in the neighborhood of the position or *identifying a reason* indicating why the referred document is cited by retrieving the reason from a *correspondence table* using *the feature in the neighborhood* of the position extracted for the purpose of autonomous citation indexing for information retrieval.

Regarding claim 2, Egger, in view of Lawrence, further disclose a document information extracting device extracting document information about the document data from the document data, and wherein said output device outputs the information extracted by the document information extracting device together with the output information (see Egger - Figure 5B; column 29, lines 6-8; column 31, lines 14-19 → full text information display).

Regarding claim 3, Egger, in view of Lawrence, further disclose a reference reason identifying apparatus, wherein said identification device identifies the reason why the referred document is cited based on at least one of information about a chapter to which the position where the referred document is cited belongs (see Egger - column 13, lines 59-61; column 14, lines 8-16; column 16, lines 39-48, 64+); and information about a character string in the neighborhood of the position where the referred document is cited (see column 4, lines 20-25 → Egger teaches identifying sections (i.e. character strings or chapters) of a document and determining why they are related).

Regarding independent claims 4 and 19, Egger, in view of Lawrence, disclose the reference reason identifying apparatus with respect to independent claim 1 as discussed above. Furthermore, Egger discloses a pattern data list storage device storing pattern information including character string patterns which indicating documents that are cited and a reference position extracting device extracting information about a position where the referred document is cited in the document data

by searching the document data for a pattern which matches a pattern character string pattern (see Fig. 6 and col. 14 lines 21 et seq.).

Egger does not specifically teach: a *keyword storage* storing a keyword of each piece of document data; a *keyword extracting device* extracting keyword information of the referred document from information in the neighborhood of a position where the referred document is cited in the given document data; and a *keyword storing device* storing the keyword information as a keyword of the referred document in the keyword storage.

However, Lawrence discloses combining the use of automatic citation indexing and keyword indexing (see col. 6 lines 61-64). The downloaded papers are parsed to extract semantic features (i.e. context, keywords, etc.), which are stored in a database that can later be searched by keyword (see col. 6 lines 42-52).

Since Egger and Lawrence are both from the same field of endeavor, the purposes disclosed by Lawrence would have been recognized in the pertinent art of Egger. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teaching of Egger with the teachings of Lawrence to include a *keyword storage* storing a keyword of each piece of document data; a *keyword extracting device* extracting keyword information of the referred document from information in the neighborhood of a position where the referred document is cited in the given document data; and a *keyword storing device* storing the

keyword information as a keyword of the referred document in the keyword storage for the purpose of keyword indexing for document retrieval.

Regarding independent claim 5, please refer to the rationale relied upon to reject independent claim 1. Furthermore, Egger discloses *an information retrieval apparatus, comprising:*

- *a document database device storing document data* (see Figure 1 – 54; column 3, lines 54-55, 66+; column 10, lines 26-27, 41-43);
- *a reference correlation storage device storing a reference correlation* (see Figure 2; column 4, lines 5-9; column 11, lines 49-51);
- *a retrieval device retrieving the document data stored in the document database device using the reference correlation stored in the reference correlation storage device* (see Figure 2; column 11, lines 58-59 → CSPDM retrieves the requested objects); *and*
- *an output device outputting a retrieval result including the reference reason* (see Figure 2; column 7, lines 15-33, column 12, lines 1-9).

Egger does not specifically disclose a reason *based on a feature of the specific document in the neighborhood of the position*. However, Lawrence discloses a citation indexing system that autonomously extracts citations and identifies the context of citations in the body of articles (see col. 1 lines 10-17; col. 5 lines 50-56). Citation identifiers are used to find the locations and *positions* in the document body where the

Art Unit: 2176

citations are actually made. This allows extraction of the *features* (i.e. context) of the citations (see col. 9 lines 31-39). The context may contain *reasons for citation* by a referring document such as a brief summary of the paper, another author's response to the paper, or a subsequent work, which builds upon the original article (see col. 6 lines 34-37).

Since Egger and Lawrence are both from the same field of endeavor, the purposes disclosed by Lawrence would have been recognized in the pertinent art of Egger. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teaching of Egger with the teachings of Lawrence to include a *reason* based on a feature of the specific document in the neighborhood of the position for the purpose of autonomous citation indexing for information retrieval.

Regarding claim 6, refer to the rationale relied upon to reject claim 1.

Furthermore, Egger further discloses an information retrieval apparatus comprising a device storing information including the information extracted by the referred document extracting device and the reference category in said reference correlation storage device (see Figure 1 – 54; column 3, lines 54-55; column 4, lines 5-9; column 10, lines 26-27, 41-43; column 11, lines 49-51).

Regarding claim 7, Egger, in view of Lawrence, further disclose an information retrieval apparatus wherein said reference correlation storage device stores keyword

information of the referred document extracted from the specific document (see Egger - column 17, lines 23-28), and said retrieval device retrieves the document data using the keyword information (see Egger Figure 2; column 11, lines 58-59).

Regarding claim 8, Egger, in view of Lawrence, further disclose an information retrieval apparatus wherein said output device includes a display device graphically displaying the reference correlation based on the reference category (see Egger - Figure 2; column 7, lines 15-33, column 12, lines 1-9).

Regarding claim 9, Egger, in view of Lawrence, further disclose an information retrieval apparatus wherein said output device includes a display device displaying the reference correlation in a time series (see Egger - ABSTRACT; column 29, lines 25-27; column 32, lines 25-32 → Reference cases can be displayed according to time of decision or date or decision).

Regarding independent claim 10, please refer to the rationale relied upon to reject claim 1.

Furthermore, Egger discloses a document classifying apparatus, comprising a similarity identification device calculating a similarity in reference correlation based on the reason indicating why the referred document is cited, between a plurality of pieces of document data, and classifying the plurality of the pieces of the document data (see Figure 2 – 62; Figure 3A; column 3, lines 24-30; column 13, lines 41-50; column 16,

Art Unit: 2176

lines 37+ → Proximity Indexing Application Program indexes the references); and an output device outputting a classification result (see Figure 2; column 7, lines 15-33, column 12, lines 1-9).

Regarding claim 11, Egger, in view of Lawrence, further disclose a document classifying apparatus comprising a keyword extraction device extracting keyword information of the referred document from information in the neighborhood of the position where the referred document is cited (see Egger - column 17, lines 23-28), and wherein said similarity identification device classifies the plurality of the pieces of the document data using the keyword information (see Egger - Figure 2; column 11, lines 58-59).

Independent claim 12 incorporates substantially similar subject matter as claim 5, and is rejected along the same rationale.

Regarding independent claim 13, Egger, in view of Lawrence, disclose a *computer-readable storage medium on which is recorded a program enabling a computer to execute a process* (see Egger - column 11, lines 2-34). With respect to independent claim 13, refer to the rationale relied upon to reject claim 1.

Regarding independent claim 14, Egger, in view of Lawrence, disclose a *computer-readable storage medium on which is recorded a program enabling a*

Art Unit: 2176

computer to execute a process (see Egger - column 11, lines 2-34). With respect to independent claim 14, refer to the rationale relied upon to reject claim 5.

Regarding independent claim 15, Egger, in view of Lawrence, *disclose a computer-readable storage medium on which is recorded a program enabling a computer to execute a process* (see Egger - column 11, lines 2-34). With respect to independent claim 15, refer to the rationale relied upon to reject claims 1 and 10.

Regarding independent claim 16, Egger, in view of Lawrence, *disclose a reference reason identifying apparatus*. With respect to independent claim 16, refer to the rationale relied upon to reject claim 1.

Regarding independent claim 17, Egger, in view of Lawrence, *disclose an information retrieval apparatus*. With respect to independent claim 17, refer to the rationale relied upon to reject claim 5.

Regarding independent claim 18, Egger, in view of Lawrence, *disclose a document classifying apparatus with means*. With respect to independent claim 18, refer to the rationale relied upon to reject claim 1.

Response to Arguments

5. Applicant's arguments filed on 5/22/2006 have been fully considered but they are not persuasive.

Applicant amended claim 1 to clarify the meaning of "reason" to include "at least one of answer, application, basic, contraposition, human, related work, review, software, technique, weak correlation and similar" (pgs. 32-33 of Specification). Applicant argues that Reference B, Lawrence, does not suggest that the system is or could be modified to be capable of identifying a reason for citation.

Examiner respectfully disagrees. Examiner first directs Applicant's attention to the fact that Reference A, Egger, teaches that a table is used to correlate or map a section of a document for identifying reasons for the citation (i.e., source links, influence links, opinion overruled, opinion followed, etc.) (see col. 12 lines 40-45 and col. 14 lines 2-27). The "reasons" identified by Egger clearly fall within Applicant's clarified definition of "reason" in the amended claim language as discussed in the rejection of independent claim 1 above. Furthermore, Reference B, Lawrence, which is being relied upon to teach the "neighborhood of the position" limitation, also teaches identification of "reasons" for citation. In col. 6 lines 33-38, Lawrence teaches identification of "reasons" for citation including another author's response to the paper (*compare with* "contraposition" or "answer") or subsequent work which build upon the original article (*compare with* "similar").

Therefore both Egger and Lawrence clearly teach identification of “reasons” for citation consistent with Applicant’s amended clarification claim language.

Regarding independent claim 19, Applicant contends that there is no teaching or suggestion in the cited prior art, Egger et al., regarding matching “character string patterns”.

Examiner respectfully disagrees. On col. 13, line 40 *et seq.*, Egger et al. discloses that textual objects include words, phrases, paragraphs, or portions of other full textual objects. These full textual objects are then related to one another through a myriad of “patterns”. These textual (i.e., character string) patterns are indexed and matched to corresponding textual objects based upon their degree of relatedness to one another.

Therefore, Egger teaches matching character string patterns as set forth in newly amended independent claim 19.

Applicant lastly contends that neither Egger nor Lawrence disclose any sort of “feature of the specific document in the neighborhood of a position” is used “as a reference feature”.

Examiner respectfully disagrees. Lawrence discloses a citation indexing system that autonomously extracts citations and identifies the context of citations in the body of articles (see col. 1 lines 10-17; col. 5 lines 50-56). Citation identifiers are used to find the locations and *positions* in the document body where the citations are actually made.

Art Unit: 2176

This allows extraction of the *features* (i.e. context) of the citations (see col. 9 lines 31-39). Furthermore, the context may contain *reasons for citation* by a referring document such as a brief summary of the paper, another author's response to the paper, or a subsequent work that builds upon the original article (see col. 6 lines 34-37).

Since Egger and Lawrence are both from the same field of endeavor, the purposes of autonomous citation indexing for information retrieval as disclosed by Lawrence would have been recognized in the pertinent art of Egger. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teaching of Egger with the teachings of Lawrence.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2176

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Nguyen-Ba whose telephone number is (571) 272-4094. The examiner can normally be reached on 11 am - 7 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon can be reached on (571) 272-4136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PNB
7/28/06


HEATHER R. HERNDON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER